2005 Annual Drinking Water Quality Report

Moore County Department of Public Utilities
Vass Water System - PWSID No. 03-63-045
May 1, 2006

We're pleased to provide you with this year's Annual Water Quality Report. This report is designed to inform you about the quality water and services we deliver to you every day. Our constant goal is to provide to you a safe and dependable supply of drinking water. We want you to understand the efforts we make to continually improve the water treatment process and protect our water resources. We are committed to ensuring the quality of your water and to providing you this information.

What EPA Wants You to Know

The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs and wells. As water travels over the surface of the land or through the ground, it dissolves naturally occurring minerals and, in some cases, radioactive material, and can pick up substances resulting from the presence of animals or from human activity. Contaminants that may be present in source water include microbial contaminants, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations and wildlife; inorganic contaminants, such as salts and metals, which can be naturally-occurring or result from urban stormwater runoff, industrial or domestic wastewater discharges, oil and gas production, mining or farming; pesticides and herbicides, which may come from a variety of sources such as agriculture, urban stormwater runoff, and residential uses; organic chemical contaminants, including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production, and can also come from gas stations, urban stormwater runoff and septic systems; and radioactive contaminants, which can be naturally-occurring or be the result of oil and gas production and mining activities.
Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. EPA/CDC guidelines on appropriate means to lessen the risk of infection by cryptosporidium and other microbiological contaminants are available from the **Safe Drinking Water Hotline** (**800-426-4791)**.

Is it safe to drink?

YES! We are pleased to report that our drinking water is safe, and meets federal and state requirements. EPA prescribes regulations, which limit the amount of certain contaminants in water provided by public water systems. FDA regulations establish limits for contaminants in bottled water, which must provide the same protection for public health.
All drinking water, including bottled drinking water, may be reasonably expected to contain at least small amounts of some contaminants. It's important to remember that the presence of these contaminants does not necessarily pose a health risk.

When You Turn On Your Tap, Consider the Source

Our water source is fully treated surface water purchased from the East Moore Water District. The interconnection is located at 555 Main Street in Vass, North Carolina. East Moore Water District purchases fully treated surface water from Harnett County whose source water is from the Cape Fear River. For your information, we have included analysis conducted in 2005 by Harnett County in our report.

Source Water Assessment Program (SWAP) Results

The North Carolina Department of Environment and Natural Resources (DENR), Public Water Supply (PWS) Section, Source Water Assessment Program (SWAP) conducted assessments for all drinking water sources across North Carolina. The purpose of the assessments was to determine the susceptibility of each drinking water source (well or surface water intake) to Potential Contaminant Sources (PCSs). The results of the assessment are available in SWAP Assessment Reports that include maps, background information and a relative susceptibility rating of Higher, Moderate or Lower.
The relative susceptibility rating of each source for Moore County Public Utilities - Vass was determined by combining the contaminant rating (number and location of PCSs within the assessment area) and the inherent vulnerability rating (i.e., characteristics or existing conditions of the well or watershed and its delineated assessment area.). The assessment findings are summarized in the table below:

Susceptibility of Sources to Potential Contaminant Sources (PCSs)

Source Name	Susceptibility Rating
Cape Fear River	Higher

The complete SWAP Assessment report for Harnett County Public Utilities may be viewed on the Web at:

http://www.deh.enr.state.nc.us/pws/swap To obtain a printed copy of this report, please mail a written request to: Source Water Assessment Program – Report Request, 1634 Mail Service Center, Raleigh NC 27699-1634, or email request to swap@ncmail.net. Please indicate your system name, PWSID, and provide your name, mailing address and phone number. If you have any questions about the SWAP report please contact the Source Water Assessment staff by phone at 919-715-2633. It is important to understand that a susceptibility rating of "higher" does not imply poor water quality, only the systems' potential to become contaminated by PCS's in the assessment area.

Violations that Your Water System Received for the Report Year

During 2005 or any compliance period that ended in 2005, we received no violations. However, **Harnett County** received a MCL violation for Chlorite. The violation occurred June 1, 2005 through June 30, 2005. Three samples are taken monthly from their distribution system for chlorite. Compliance is based on the average of the three sample set. They reported a 1.1 mg/L chlorite which exceeds the established MCL of 1.0 mg/L. Since the violation occurred, they have installed in line monitors, in addition to daily testing, to better monitor for chlorite. Samples taken the following month, July 2005, were 0.692 mg/L, which were below the MCL and they returned to compliance. Some infants and young children who drink water containing chlorite in excess of the MCL could experience nervous system effects. Similar effects may occur in fetuses of pregnant women. Some people may experience anemia.

What if I have any questions or would like to become more involved?

If you have any questions about this report or concerning your water utility, please contact **Ben Vaughn at (910) 947 - 6315.** We want our valued customers to be informed about their water utility. If you want to learn more, please attend any of our regularly scheduled meetings. They are held on the first Monday of each month at 2:00 p.m., and the third Monday of each month at 6:00 p.m. in the Commissioners' Meeting Room, Second floor - Historic Courthouse, Courthouse Circle, Carthage, North Carolina.

Water Quality Data Table of Detected Contaminants

We routinely monitor for over 121 substances in your drinking water according to Federal and State laws. The following tables list all the drinking water contaminants that we detected in the last round of sampling for the particular contaminant group. The presence of contaminants does not necessarily indicate that water poses a health risk. Unless otherwise noted, the data presented in these tables is from testing done **January 1st to December 31st, 2005**. The EPA or the State requires us to monitor for certain contaminants less than once per year because the concentration of these contaminants are not expected to vary significantly from year to year. Some of the data, though representative of the water quality, is more than one year old.

Important Drinking Water Definitions:

Action Level (AL) -the concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.

Maximum Contaminant Level - "Maximum Allowed" (MCL) is the highest level of a substance that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible using the best available treatment technology. MCLs are set at very stringent levels. To understand the possible health effects described for many regulated constituents, a person would have to drink 2 liters of water everyday at the MCL level for a lifetime to have a one-in-a-million chance of having the described health effect.

Maximum Contaminant Level Goal - The "Goal" (MCLG) is the level of a substance in drinking water below which there is no known or expected risk to health. MCLGs allow for a margin of safety.

Maximum Residual Disinfection Level Goal – The "Level" (MRDLG) of a drinking water disinfectant below which there is no known or expected risk to health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contaminants.

Maximum Residual Disinfection Level – The "Highest Level" (MRDL) of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.

Nephelometric Turbidity Unit (NTU) - a nephelometric turbidity unit is a measure of the clarity of water. Turbidity in excess of 5 NTU is just noticeable to the average person.

Not-Applicable (N/A) – Information not applicable/not required for that particular water system or for that particular Rule.

Parts per million (ppm) - one part per million corresponds to one minute in two years, or a single penny in $10,000.

Parts per billion (ppb) - one part per billion corresponds to one minute in 2,000 years, or a single penny in $10,000,000.

Treatment Technique (TT) - A treatment technique is a required process intended to reduce the level of a contaminant in drinking water.

REGULATED CONTAMINANT TEST RESULTS						
Substance	Violation Y/N	Your Water	Units	MCLG	MCL	Likely Source of Contamination
Turbidity – tested at the Harnett County Water Plant – 2005						
Turbidity	N	0.11 _____ 100 %	NTU	N/A	TT = 1 NTU _____ TT = % of samples < 0.3 NTU	Soil runoff
Inorganic Substances – tested at the Harnett County Water Plant – 2005						
Fluoride	N	0.89	ppm	4	4	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories

Lead and Copper Contaminants - tested at the users tap in 2003 by Moore County Public Utilities

Contaminant (units)	Sample Date	Your Water	# of sites found above the AL	MCLG	MCL	Likely Source of Contamination
Copper (ppm) (90^{th} percentile)	9/3/03, 9/4/03	0.078	0	1.3	AL=1.3	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives

Disinfection By-Product Contaminants – tested in 2005 by Moore County and Harnett County

Contaminant (units)	MCL Violation Y/N	Your Water	Range Low High	MCLG	MCL	Likely Source of Contamination
HAA5 (ppb) [Haloacetic Acids]	N	9.75	7 12	N/A	60	By-product of chlorination
TTHM (ppb) [Total Trihalomethanes]	N	38.75	8 75	N/A	80	By-product of chlorination
Chloramines (ppm)	N	2.43	1.16 3.74	MRDLG = 4	MRDL = 4	Water additive used to control microbes
Chlorine (ppm)(Only month of March)	N	0.49	0.35 0.62	MRDLG = 4	MRDL = 4	Water additive used to control microbes
Chlorine Dioxide (ppb)	N	122	0 711	800	800	Water additive used to control microbes
Chlorite (ppm)	Y	0.607	0.33 1.07	0.8	1	By-product of chlorination
Disinfection By-Product Precursors Contaminants – tested at the Harnett County Water Plant - 2005						
Total Organic Carbon (ppm)(Raw TOC)	N	6.49	5.01 8.48	N/A	TT	Naturally present in the environment
Total Organic Carbon (ppm)(Treated TOC)	N	2.76	2.17 3.37	N/A	TT	Naturally present in the environment

Note: Depending on the TOC in their source water, the system must have a certain % removal of TOC or must achieve alternative compliance criteria. If the system fails to achieve either removal, they are in violation of a Treatment Technique (TT). Harnett County used Step 1 as the method to comply with the disinfection/disinfection by-product treatment technique requirements. Step 1 TOC removal requirements are listed in the table below:

Alternative Compliance Criteria (ACC)	
Alt. 1	Source Water TOC < 2.0 mg/L
Alt. 2	Treated Water TOC < 2.0 mg/L
Alt. 3	Source Water SUVA ≤ 2.0 L/mg-m
Alt. 4	Treated Water SUVA ≤ 2.0 L/mg-m
Alt. 5	Treated Water Alkalinity < 60 mg/L (for softening systems only)
Alt. 6	THM & HAA RAA's ≤ 1/2 MCL & uses only chlorine
Alt. 7	Source TOC RAA < 4.0 mg/L and Source Alkalinity > 60 mg/L and THM & HAA RAAs ≤ 1/2 MCL

STEP 1 TOC Removal Requirements			
Source Water TOC (mg/L)	Source Water Alkalinity Mg/L as CaCO3 (in percentages)		
	0 - 60	>60-120	>120
> 2.0 - 4.0	35.0	25.0	15.0
> 4.0 - 8.0	45.0	35.0	25.0
> 8.0	50.0	40.0	30.0

Unregulated contaminant monitoring assists EPA in determining the occurrence of unregulated contaminants in drinking water and whether future regulation is warranted. **If you would like more information on unregulated chemicals, please call the EPA Hotline at 1-800-426-4791.**

Unregulated Volatile Organic Chemical Substances – tested at the Harnett County Water Plant

Contaminant (units)	Sample Date	Your Water	Range Low High
Chloroform (ppb)	1/10/05	1.5	N/A
Bromodichloromethane (ppb)	1/10/05	4.4	N/A
Bromoform (ppb)	1/10/05	3.3	N/A
Chlorodibromomethane (ppb)	1/10/05	7.4	N/A

Secondary contaminants, required by the NC Public Water Supply Section, are substances that affect the taste, odor and/or color of drinking water. These aesthetic contaminants normally do not have any health effects and normally do not affect the safety of your water.

Water Characteristics measured at the Harnett County Water Plant

Contaminant (units)	Your Water	Date of Sample	Secondary MCL
pH	7.6	1/10/05	6.5 to 8.5
Sodium (ppm)	25.1	1/10/05	N/A
Sulfate (ppm)	36.2	1/10/05	250

List of All Required Contaminants for Purchase Water Systems

Testing requirements and frequencies are based on type of water used, size of population, purchase system versus non-purchase systems, detection of a contaminant, state-wide sampling waivers, previous sampling history--reduced monitoring permission, etc.

Regulated Contaminants--have an allowable limit (Maximum Contaminant Level {MCL}) – Type of samples collected by Moore County Public Utilities:

Asbestos – certain systems – every 9 years
Microbiological--every month
Total Coliform Fecal/E. Coli--as needed
Lead and Copper--every 6 months or every year or every 3 years
Total Trihalomethanes--certain systems--every quarter or every year
Chloroform Bromoform Chlorodibromomethane Bromodichloromethane
(These 4 contaminants results added together equal the Total Trihalomethanes)
Total Haloacetic Acids--certain systems—every quarter or every year
Monochloroacetic Acid Dichloroacetic Acid Trichloroacetic Acid Monobromoacetic Acid Dibromoacetic Acid
(These 5 contaminants results added together equal the Total Haloacetic Acids)

We, at Moore County Department of Public Utilities, work around the clock to provide top quality water to every tap. We ask that all our customers help us protect our water sources, which are the heart of our community, our way of life, and our children's future. **Please call our office at (910) 947-6315 if you are in need of customer service.**